Docket No. AUS920030481US1

CLAIMS:

What is claimed is:

1. A method in a data processing system for monitoring execution of instructions, the method comprising:

determining whether an instruction is associated with an indicator; and

incrementing a counter associated with the instruction in response to detecting execution of the instruction and to a determination that the instruction is associated with the indicator.

2. The method of claim 1 further comprising:

resetting the counter if the counter exceeds a threshold value.

3. The method of claim 2 further comprising:

reading a value of the counter prior to the counter exceeding the threshold value.

4. The method of claim 1, wherein the incrementing step comprises:

incrementing the counter by an instruction cache in response to detecting execution of the instruction and to a determination that the instruction is associated with the indicator.

5. The method of claim 1, wherein the counter is a field in the instruction.

6. The method of claim 1, wherein the counter is located in a shadow memory.

7. The method of claim 1, wherein the indicator is the counter.

8. The method of claim 1 further comprising:

changing the indicator to disable counting execution of the instruction upon subsequently encountering the indicator.

9. The method of claim 1, wherein the determining step is initiated when the instruction is executed.

10. A method in a data processing system for monitoring access to data, the method comprising:

responsive to an access to a memory location, determining whether the memory location is associated with an indicator; and

responsive to the memory location being associated with the indicator, incrementing a counter associated with the memory location.

11. The method of claim 10, wherein the counter is located in a field.

12. The method of claim 11, wherein the field includes a control bit that forms the indicator.

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13. A data processing system for monitoring execution of instructions, the data processing system comprising:

determining means for determining whether an instruction is associated with an indicator; and

incrementing means for incrementing a counter associated with the instruction in response to detecting execution of the instruction and to a determination that the instruction is associated with the indicator.

14. The data processing system of claim 13 further comprising:

resetting means for resetting the counter if the counter exceeds a threshold value.

15. The data processing system of claim 14 further comprising:

reading a value of the counter prior to the counter exceeding the threshold value.

16. The data processing system of claim 13, wherein the incrementing means comprises:

means for incrementing the counter by an instruction cache in response to detecting execution of the instruction and to a determination that the instruction is associated with the indicator.

17. The data processing system of claim 13 further comprising:

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changing means for changing the indicator to disable counting execution of the instruction upon subsequently encountering the indicator.

18. A data processing system in a data processing system for monitoring access to data, the data processing system comprising:

determining means, responsive to an access to a memory location, for determining whether the memory location is associated with an indicator; and

incrementing means, responsive to the memory location being associated with the indicator, for incrementing a counter associated with the memory location.

19. The data processing system of claim 18, wherein the counter is located in a field.

20. The data processing system of claim 18, wherein the field includes a control bit that forms the indicator.

21. A computer program product in a computer readable medium for monitoring execution of instructions, the computer program product comprising:

first instructions for determining whether an instruction is associated with an indicator; and

second instructions for incrementing a counter associated with the instruction in response to detecting execution of the instruction and to a determination that the instruction is associated with the indicator.

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22. The computer program product of claim 21 further comprising:

third instructions for resetting the counter if the counter exceeds a threshold value.

23. The computer program product of claim 22 further comprising:

fourth instruction for reading a value of the counter prior to the counter exceeding the threshold value.

24. The computer program product of claim 21, wherein the second instructions comprises:

sub-instructions for incrementing the counter by an instruction cache in response to detecting execution of the instruction and to a determination that the instruction is associated with the indicator.

25. A computer program product in a computer readable medium for monitoring access to data, the computer program product comprising:

first instructions for determining whether the memory location is associated with an indicator, responsive to an access to a memory location; and

second instructions for incrementing a counter associated with the memory location, responsive to the memory location being associated with the indicator.